

Notice of Allowability**Application No.**

10/650,453

Examiner

Jennifer Doan

Applicant(s)

TOBIASON ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-45.
3. ☒ The drawings filed on 29 June 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 0304
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT AND STATEMENT OF REASONS FOR ALLOWANCE

Examiner's amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the abstract, please delete lines 11-13 (from "The fiber optic ... readhead dimensions."). Since the abstract should be within the range of 50 to 150 words.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance:

None of the references discloses alone or in combination a method and a device of a fiber optic readhead arrangement positionable to provide an operable image of the scale grating pattern, the fiber optic readhead arrangement including a plurality of fiber-optic receiver channels having a respective receiver channel spatial phase mask portion having a spatial phase and light blocking elements arranged at a pitch that is operable for spatial filtering the operable image of the scale grating pattern; wherein the readhead is operably positioned relative to the scale grating pattern at least first and second channels of the plurality of fiber-optic receiver channels filter the respective portions of the operable image of the scale grating pattern at the nominal receiver plane

to provide first and second receiver channel optical signals having first and second respective signal phase and the device outputs first and second receiver channel optical signals along respective optical fibers to provide relative displacement measurement information in the form of a plurality of respective optical output signals, in combination with the remaining claimed limitations.

The most relevant references, Oelsch et al. (U.S. Patent 3,902,063) disclose an adjustment of phase detection in photoelectric sensor head. Gaebe (U.S. Patent 4,981,335) discloses a package with reducing internal reflections. Pan et al. (U.S. Patent 5,566,259) disclose polarization mode dispersion. And Kaneda et al. (U.S. Patent 5,621,527) disclose a device for measuring relative displacement between the apparatus and a scale, which a grating is formed. However, none of the above cited references disclose or suggest either alone or in combination the above features of the claimed invention.

Claims 1-45 are therefore allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 03/11/2004, have all been considered and made of record (note the

attached copy of form PTO-1449). These documents also fail to disclose or suggest the limitations above.

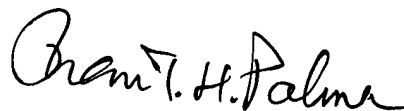
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Doan
Patent Examiner
September 3, 2004



PHAN T. H. PALMER
PRIMARY EXAMINER